Tiarajudens

Tiarajudens ("Tiaraju tooth") is an extinct genus of saber-toothed herbivorous anomodonts which lived during the Middle Permian period (Capitanian stage) in what is now Rio Grande do Sul, Brazil. It is known from the holotype UFRGS PV393P, a nearly complete skull. The type species *T. eccentricus* was named in 2011.^[1]

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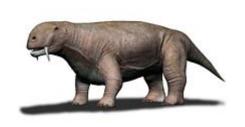
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Description



Restoration

Tiarajudens Temporal range: Capitanian ~260 Ma Pre€ € OS D C P T J K PgN Scientific classification 🥖 Kingdom: Animalia Phylum: Chordata Clade: Therapsida Clade: †Anomocephaloidea Genus: †Tiarajudens Cisneros et al., 2011 Species: †T. eccentricus **Binomial** name †Tiarajudens eccentricus Cisneros et al., 2011

Tiarajudens is a member of

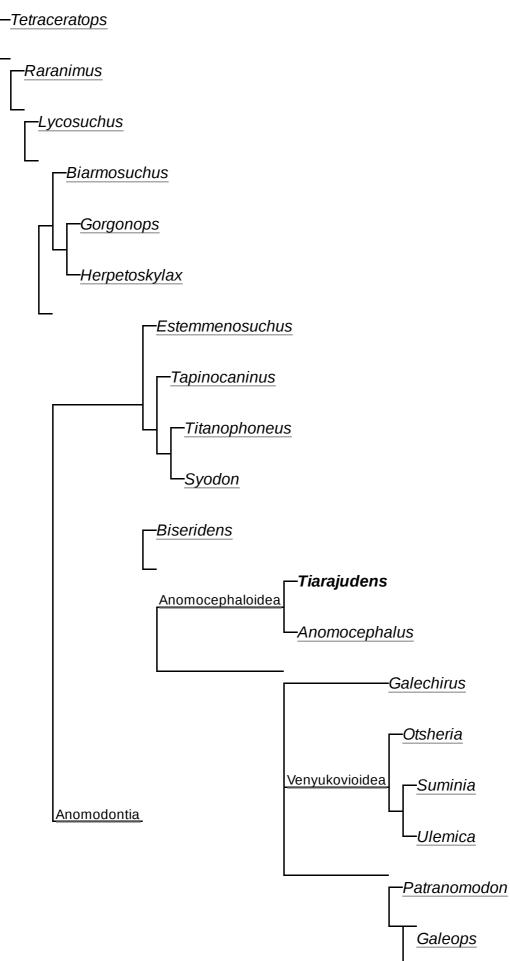
Anomodontia, a suborder of therapsids. Like other anomodonts, it was a quadrupedal herbivore about the size of a wild boar. [2] The single fragmented holotype skull is short and robust at about 22.5 centimetres (8.9 in) in length. The most prominent features of *Tiarajudens* are its two large saber-like canine teeth. These teeth are unlike the tusks of dicynodonts, a later group of anomodonts. [3][4] Twenty-one high-crowned teeth are present on either side of the upper jaw, including spoon-shaped incisors. Wide palatal teeth are also present. [5] The top and bottom sets of teeth fit closely together, much like the teeth of mammals, allowing it to easily chew plants.

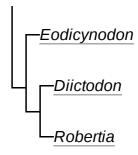
History

The type species of *Tiarajudens*, *T. eccentricus*, was described in the journal *Science* in 2011. It was named by Juan Carlos Cisneros, Fernando Abdala, Bruce S. Rubidge, Paula Camboim Dentzien-Dias, and Ana de Oliveira Bueno. The skull was found in the Middle Permian Rio do Rasto Formation in Rio Grande do Sul. Paleontologists found the location using satellite photographs from Google Earth. [6] The locality was identified as a clearing within a thickly vegetated area. The degree of erosion and the color of the rocks were an indication of the locality's age and likelihood of preserving fossils. [6]

Phylogeny







Paleobiology

The saber-like teeth of *Tiarajudens* are unique among anomodonts, a group of entirely herbivorous therapsids. Although large canines are often found in carnivores, the surrounding teeth of *Tiarajudens* indicate that it was an herbivore. *Tiarajudens* is one of the earliest herbivores to possess saber-like canines; previously the oldest known saber-toothed herbivores were large extinct mammals such as *Titanoides*, which lived around 60 million years ago. The teeth are even larger than those of the carnivorous therapsid *Inostrancevia*, one of the largest members of *Gorgonopsia*, a group characterized by the presence of long canines. The large canines of *Tiarajudens* were likely used as a defense against predators or as a means of fighting for mates; living mammals such as the <u>water deer</u> and <u>musk deer</u> use their saber teeth for these purposes. The palatal teeth are broad and fit tightly together, an adaptation to consuming fibrous plants. This variation in tooth shape, known as a <u>heterodont</u> dentition, is common in mammals. While most other Permian therapsids had <u>homodont</u> dentitions (teeth of the same shape), *Tiarajudens* is one of the earliest therapsids to have a heterodont dentition.

See also

- List of synapsids
- Sepé Tiaraju

References

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